

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A membrane comprising a sheetlike flexible substrate having a multiplicity of openings and having a porous coating on and in said substrate, said coating comprising inorganic components, ~~characterized by~~ wherein the material of said substrate ~~being~~ is selected from the group consisting of nonwovens of a polymeric fiber, ~~or~~ nonwovens of a natural fibers fiber and mixtures thereof, said nonwovens having a porosity of more than 50%, said substrate being from 10 to 200 μm in thickness and said coating being a porous ceramic coating.

Claim 2 (Currently Amended): The membrane of claim 1, ~~characterized by~~ wherein said polymeric fiber fibers ~~being~~ is selected from the group consisting of poly-acrylonitrile, polyamides, polyimides, poly-acrylates, polytetrafluoroethylene, polyester, ~~and/or~~ polyolefin and mixtures thereof.

Claim 3 (Currently Amended): The membrane of ~~one of claims 1 or 2, characterized by~~ claim 1, wherein said polymeric fiber fibers ~~being~~ is from 1 to 25 μm in diameter.

Claim 4 (Currently Amended): The membrane of ~~any of claims 1 to 3, characterized by~~ claim 1, wherein the porosity of said substrate ~~being~~ is in the range from 50 to 97%.

Claim 5 (Currently Amended): The membrane of ~~at least one of claims 1 to 4, characterized by~~ claim 1, wherein said coating on and in said substrate ~~comprising~~ comprises an oxide of the metals a metal selected from the group consisting of Al, Zr, Si, Ti, ~~and/or~~ Y and mixtures thereof.

Claim 6 (Currently Amended): The membrane of ~~at least one of claims 1 to 5,~~ characterized by a claim 1, wherein the porosity of said membrane is in the range from 10 to 70%.

Claim 7 (Currently Amended): The membrane of ~~at least one of claims 1 to 6,~~ characterized by claim 1, wherein said membrane has an average pore size in the range of from 10 to 2000 nm.

Claim 8 (Currently Amended): The membrane of ~~any of claims 1 to 7, characterized by claim 1, wherein said membrane has~~ a tensile strength of more than 1 N/cm.

Claim 9 (Currently Amended): The membrane of ~~at least one of claims 1 to 8, 10~~ characterized by being claim 1, wherein said membrane is bendable around a radius down to 100 m without damage.

Claim 10 (Currently Amended): The membrane of ~~at least one of claims 1 to 9,~~ characterized by being claim 1, wherein said membrane is bendable around a radius down to 2 mm without damage.

Claim 11 (Currently Amended): A process for producing a membrane as claimed in ~~at least one of claims 1 to 10, which comprises claim 1 comprising~~ providing a substrate from 10 to 200 μ m in thickness, selected from the group consisting of nonwovens of polymeric fiber, or natural fibers fiber and mixtures thereof having a porosity of more than 50%, with a coating, said coating being a porous ceramic coating which is brought onto and into said

substrate by applying a suspension and heating one or more times to solidify said suspension on and in said substrate, said suspension comprising at least one oxide of ~~the metals~~ a metal selected from the group consisting of Al, Zr, Si, Ti, and/or Y and mixtures thereof and a sol.

Claim 12 (Original): The process of claim 11, wherein said suspension is brought onto and into said substrate by printing on, pressing on, pressing in, rolling on, knifecoating on, spreadcoating on, dipping, spraying or pouring on.

Claim 13 (Currently Amended): The process of ~~either or both of claims 11 and 12~~ claim 11, wherein said polymeric fibers are selected from the group consisting of polyacrylonitrile, polyamides, polyimides, poly-acrylates, polytetrafluoroethylene, polyester, and/or polyolefin and mixtures thereof.

Claim 14 (Currently Amended): The process of ~~at least one of claims 11 to 13~~ claim 11, wherein said suspension comprises at least one metal oxide sol, at least one semimetal oxide sol or at least one mixed metal oxide sol or a mixture thereof and is prepared by suspending at least one inorganic component in at least one of these sols.

Claim 15 (Original): The process of claim 14, wherein said sols are obtained by hydrolyzing at least one metal compound, at least one semimetal compound or at least one mixed metal compound using water or an acid or a combination thereof.

Claim 16 (Currently Amended): The process of claim 14 ~~or 15~~, wherein said sol comprises less than 50% by weight of water and/or acid.

Claim 17 (Currently Amended): The process of ~~at least one of claims 14 to 16 claim~~
15, wherein said metal compound hydrolyzed is at least one metal alkoxide compound or at
least one semimetal alkoxide compound selected from the alkoxide compounds of the
elements selected from the group consisting of Zr, Al, Si, Ti, and Y and mixtures thereof or at
least one metal nitrate, metal carbonate or metal halide selected from the metal salts of the
elements selected from the group consisting of Zr, Al, Si, Ti, and Y and mixtures thereof.

Claim 18 (Currently Amended): The process of ~~at least one of claims 11 to 17 claim~~
14, wherein said inorganic component suspended is at least one oxide selected from the
oxides of the elements selected from the group consisting of Y, Zr, Al, Si, and Ti and
mixtures thereof.

Claim 19 (Currently Amended): The process of ~~at least one of claims 11 to 18 claim~~
11, wherein the mass fraction of said suspended component is from 0.1 to 500 times that of
the sol used.

Claim 20 (Currently Amended): The process of ~~at least one of claims 11 to 19 claim~~
11, further comprising adding an adhesion promoter to said suspension.

Claim 21 (Currently Amended): The process of ~~at least one of claims 11 to 20 claim~~
11, further comprising ~~providing the carrier with~~ adding an adhesion promoter on said fibers
prior to said applying of said suspension.

Claim 22 (Currently Amended): The process of claim 20 or 21, wherein said adhesion promoter is selected from the organofunctional silanes and/or the oxides of the elements selected from the group consisting of Zr, Al, Si, or Ti and mixtures thereof.

Claim 23 (Currently Amended): The process of claim 22, wherein said adhesion promoter is selected from the group consisting of 3-aminopropyltriethoxy-20-silane, 2-aminoethyl-3-aminopropyltrimethoxy[[-]]silane, 3-glycidyloxytrimethoxysilane, 3-methacryloyloxypropyltrimethoxysilane, vinyltriethoxy[[-]]silane, vinyltrimethoxysilane, and vinyltris(2-methoxyethoxy)silane and mixtures thereof.

Claim 24 (Currently Amended): The process of ~~at least one of claims 11 to 23~~ claim 11, wherein said suspension present on and in the support is solidified by heating at from 50 to 350°C.

Claim 25 (Original): The process of claim 24, wherein said heating is effected at from 110 to 280°C for from 0.5 to 10 minutes.

Claim 26 (Currently Amended): The use of A method for producing batteries comprising placing a membrane as claimed in ~~at least one of claims 1 to 10~~ claim 1 in a battery as a separator in batteries.

Claim 27 (Currently Amended): The use of A method comprising utilizing a membrane as claimed in ~~at least one of claims 1 to 10~~ claim 1 as a carrier for ultra-filtration, nanofiltration, reverse osmosis, gas separation or pervaporation membranes.

Claim 28 (Currently Amended): ~~The use of A method for microfiltration comprising placing a membrane as claimed in at least one of claims 1 to 10 claim 1 as in a microfiltration device membrane.~~

Claim 29 (New): The process of claim 12, wherein said polymeric fibers are selected from the group consisting of polyacrylonitrile, polyamides, polyimides, poly-acrylates, polytetrafluoroethylene, polyester, polyolefin and mixtures thereof.

Claim 30 (New): The process of claim 15, wherein said sol comprises less than 50% by weight of water and/or acid.

Claim 31 (New): The process of claim 21, wherein said adhesion promoter is selected from the organofunctional silanes and/or the oxides of the elements selected from the group consisting of Zr, Al, Si, or Ti and mixtures thereof.